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1/30

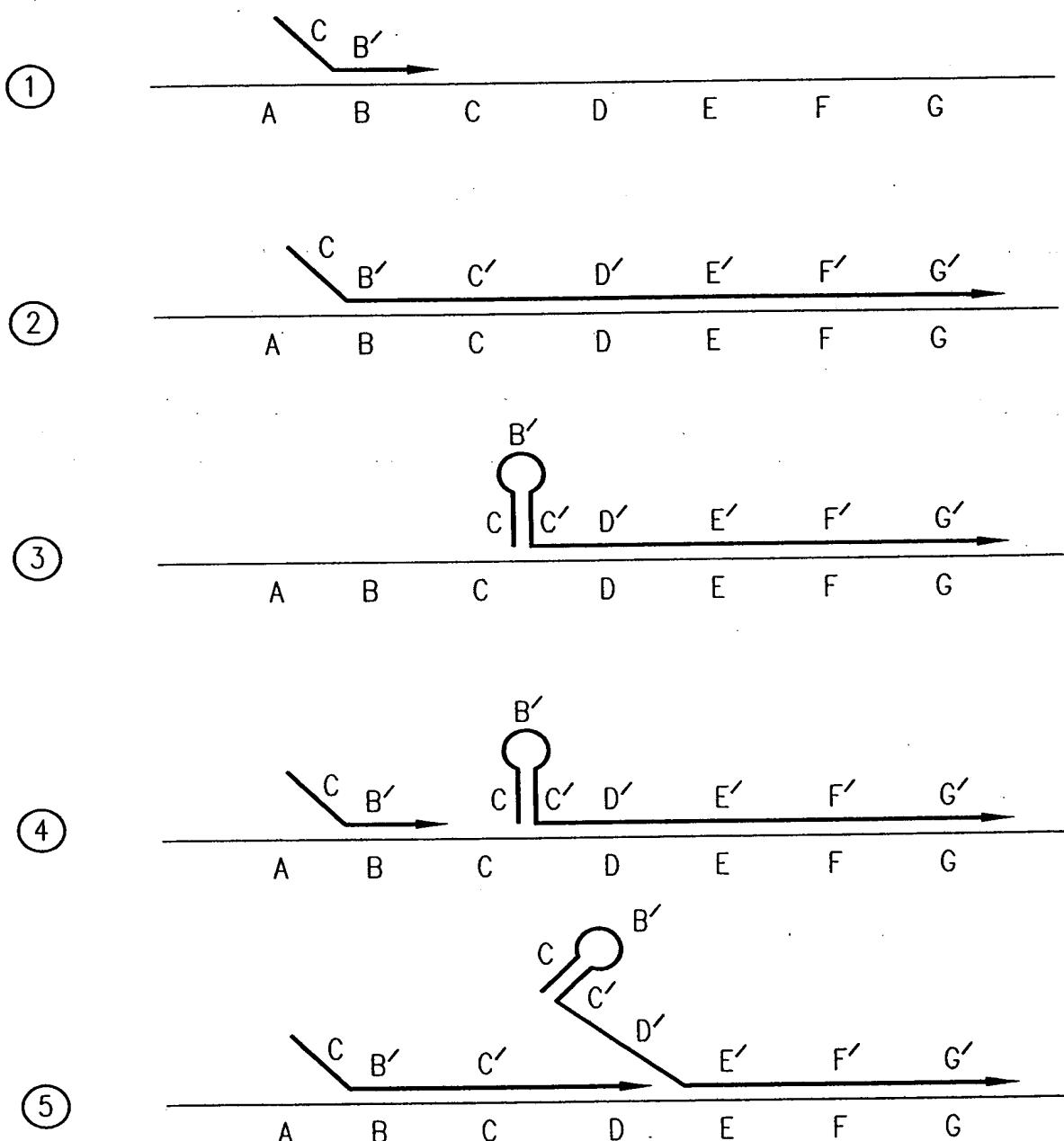
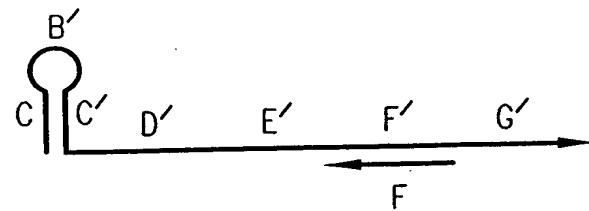


FIG. 1

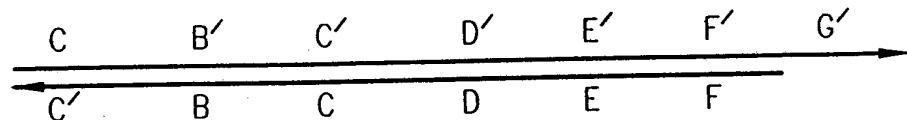


2/30

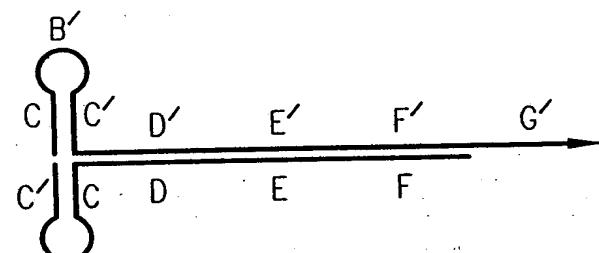
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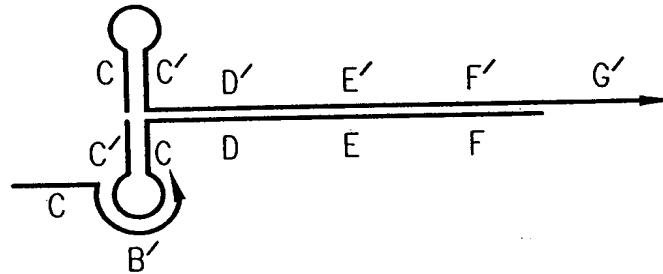
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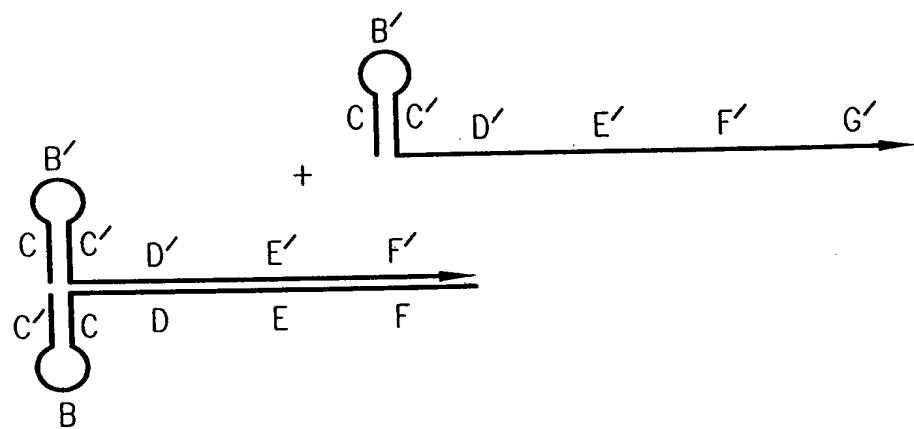


FIG. 2



3/30

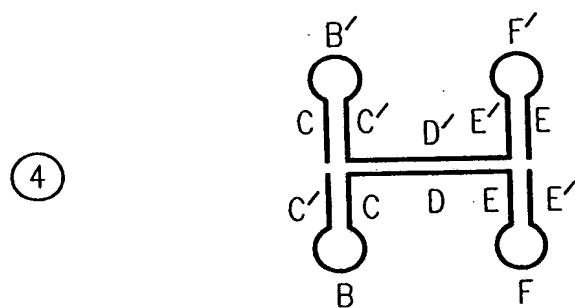
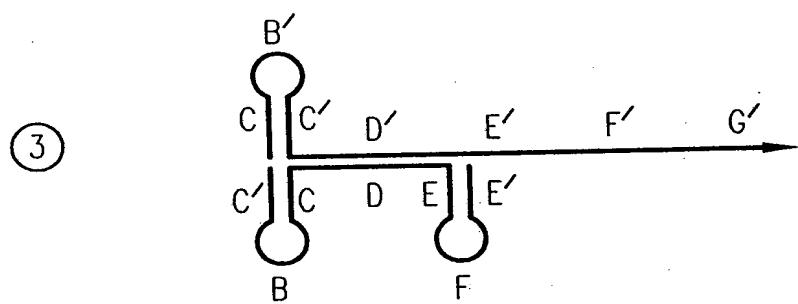
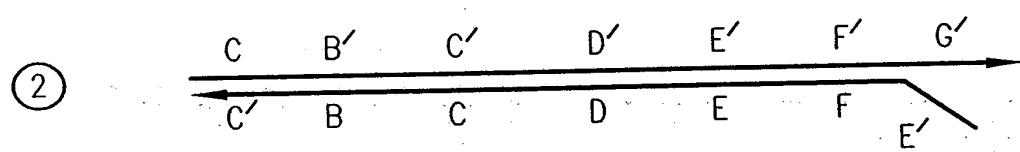
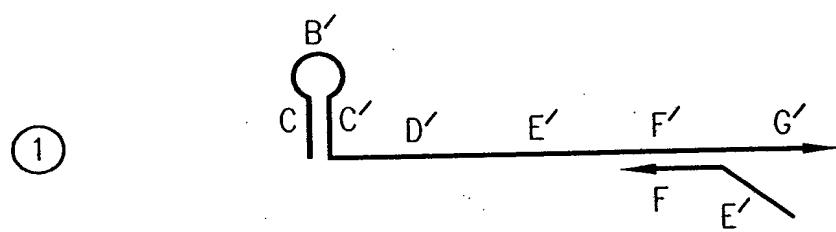
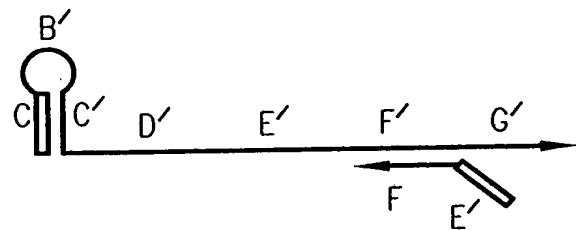


FIG. 3

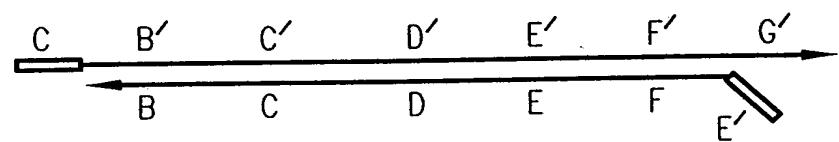


4/30

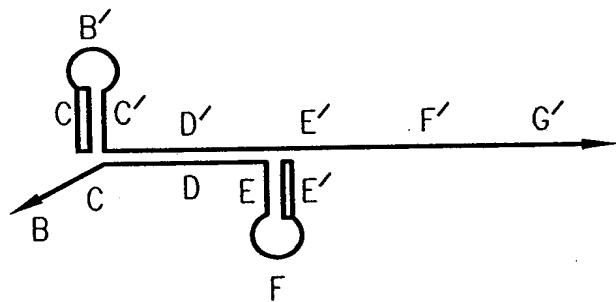
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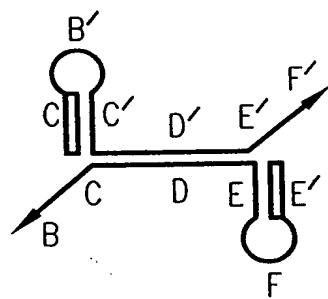


FIG. 4



5/30

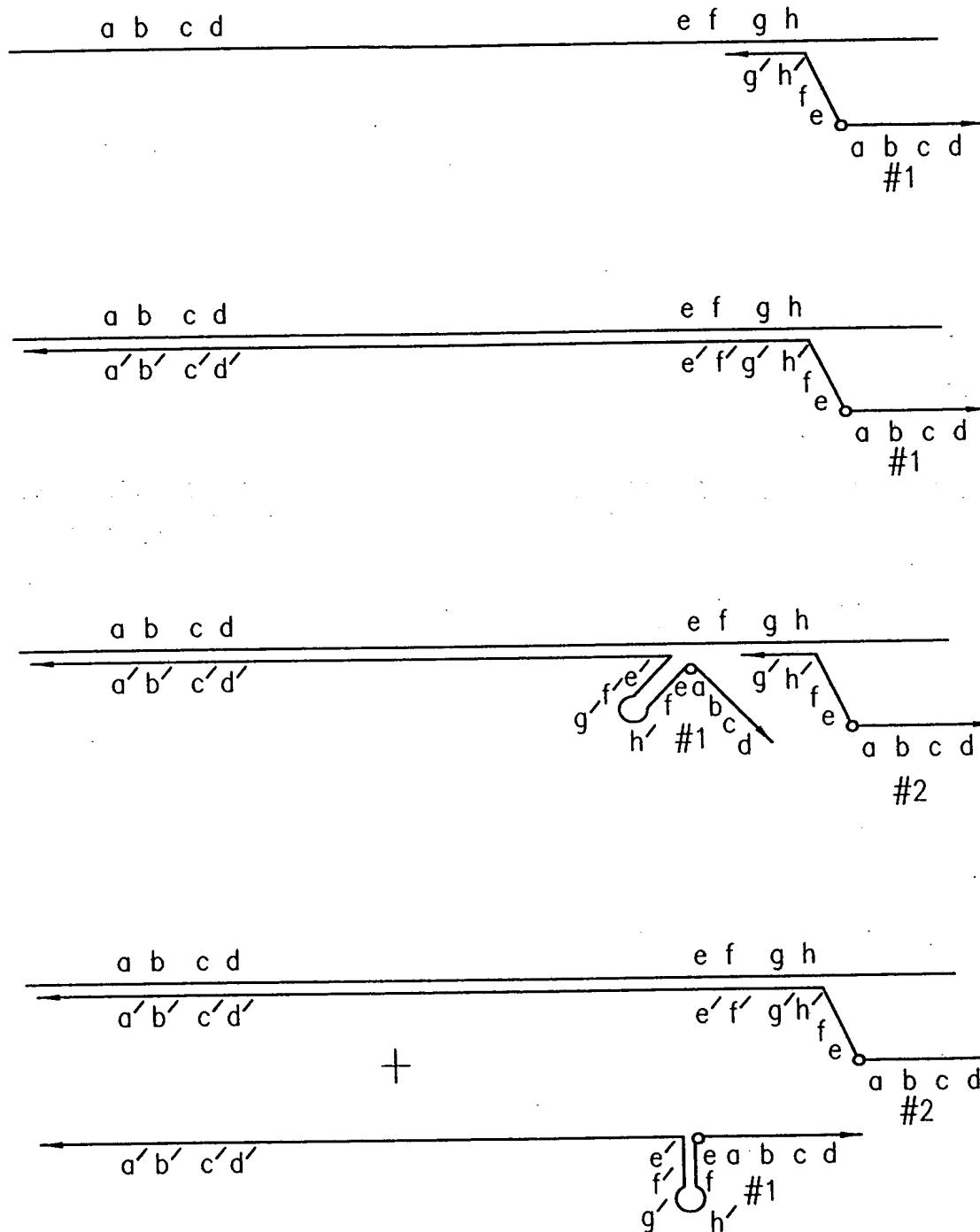


FIG. 5



6/30

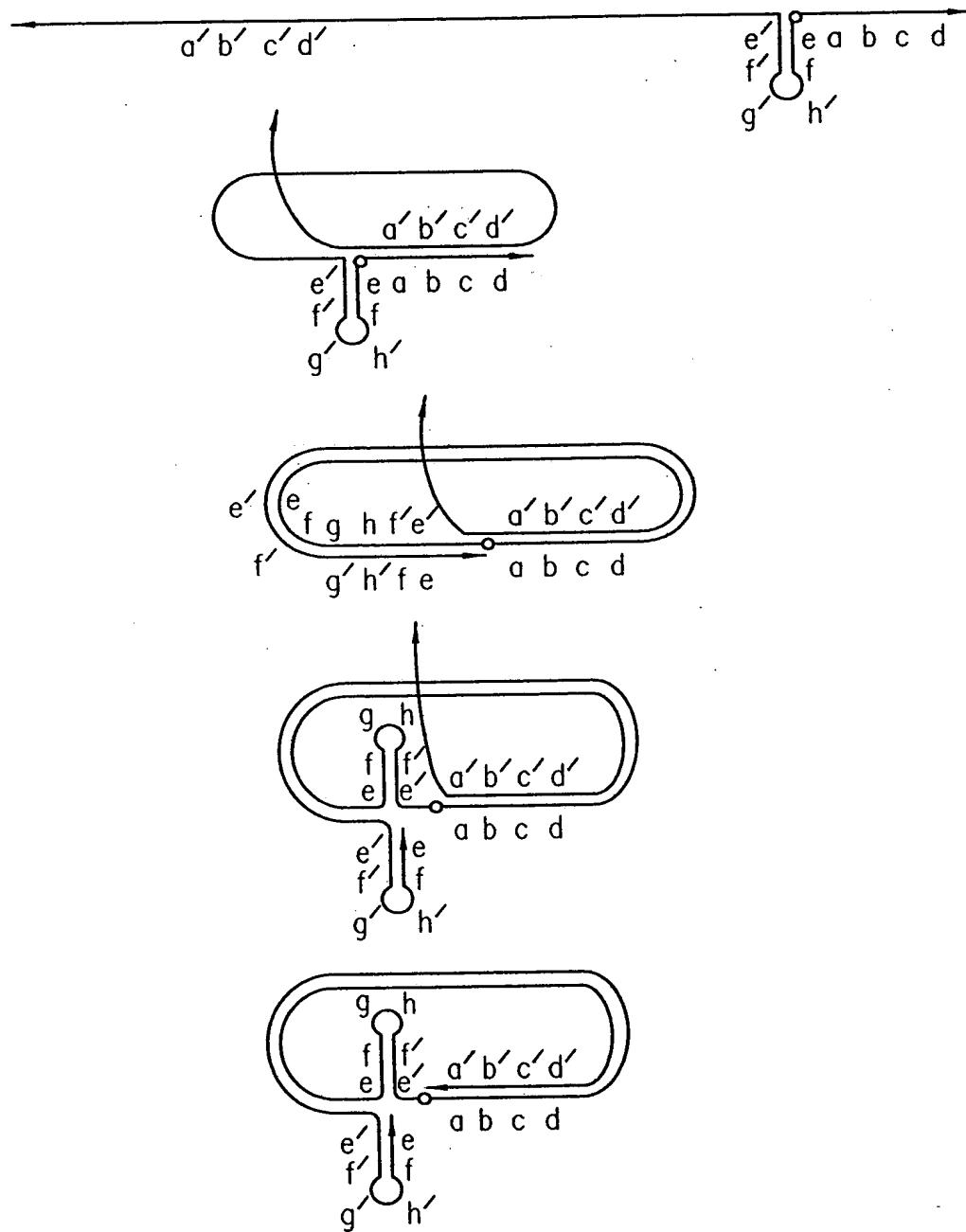


FIG. 6



7/30

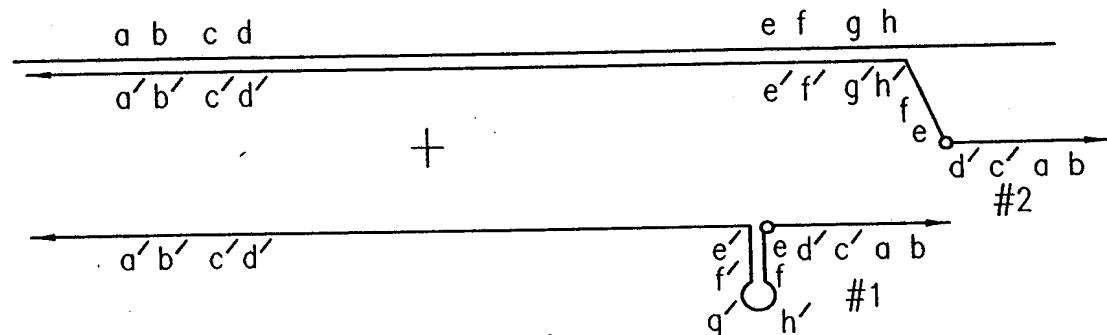
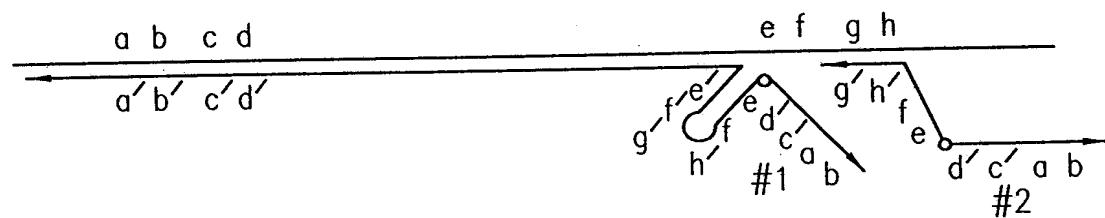
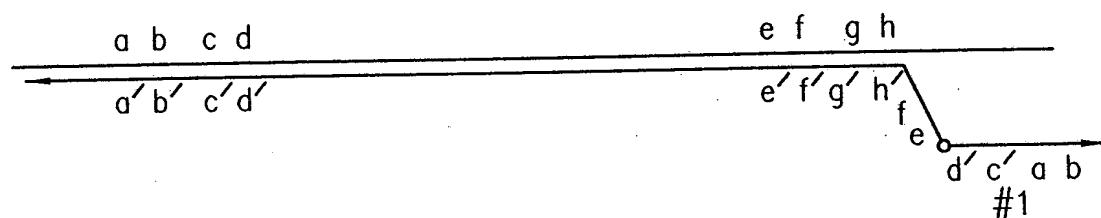
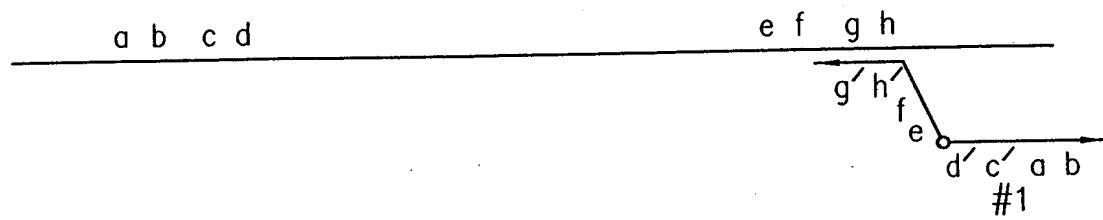


FIG. 7



8/30

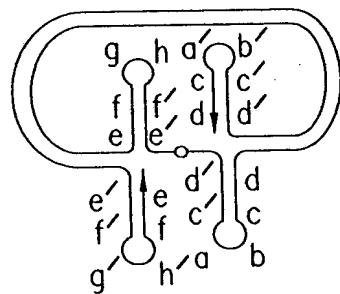
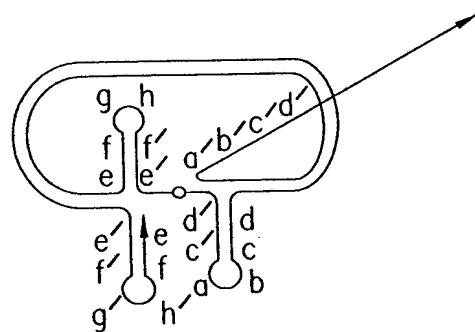
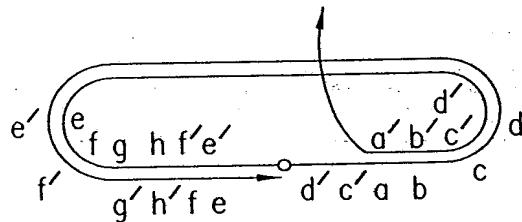
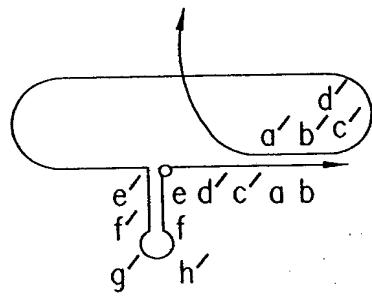


FIG. 8



9/30

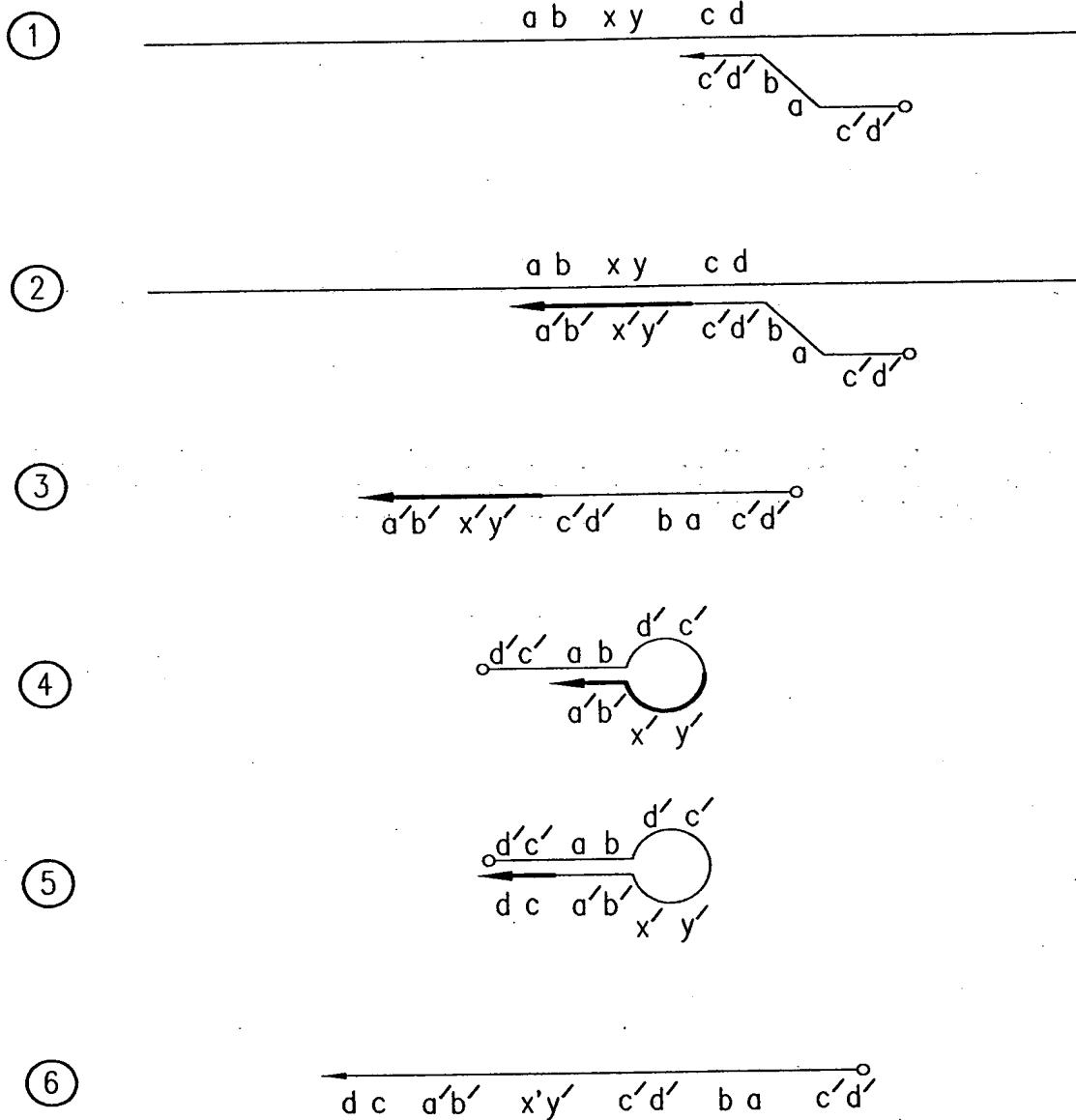


FIG. 9

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10/30

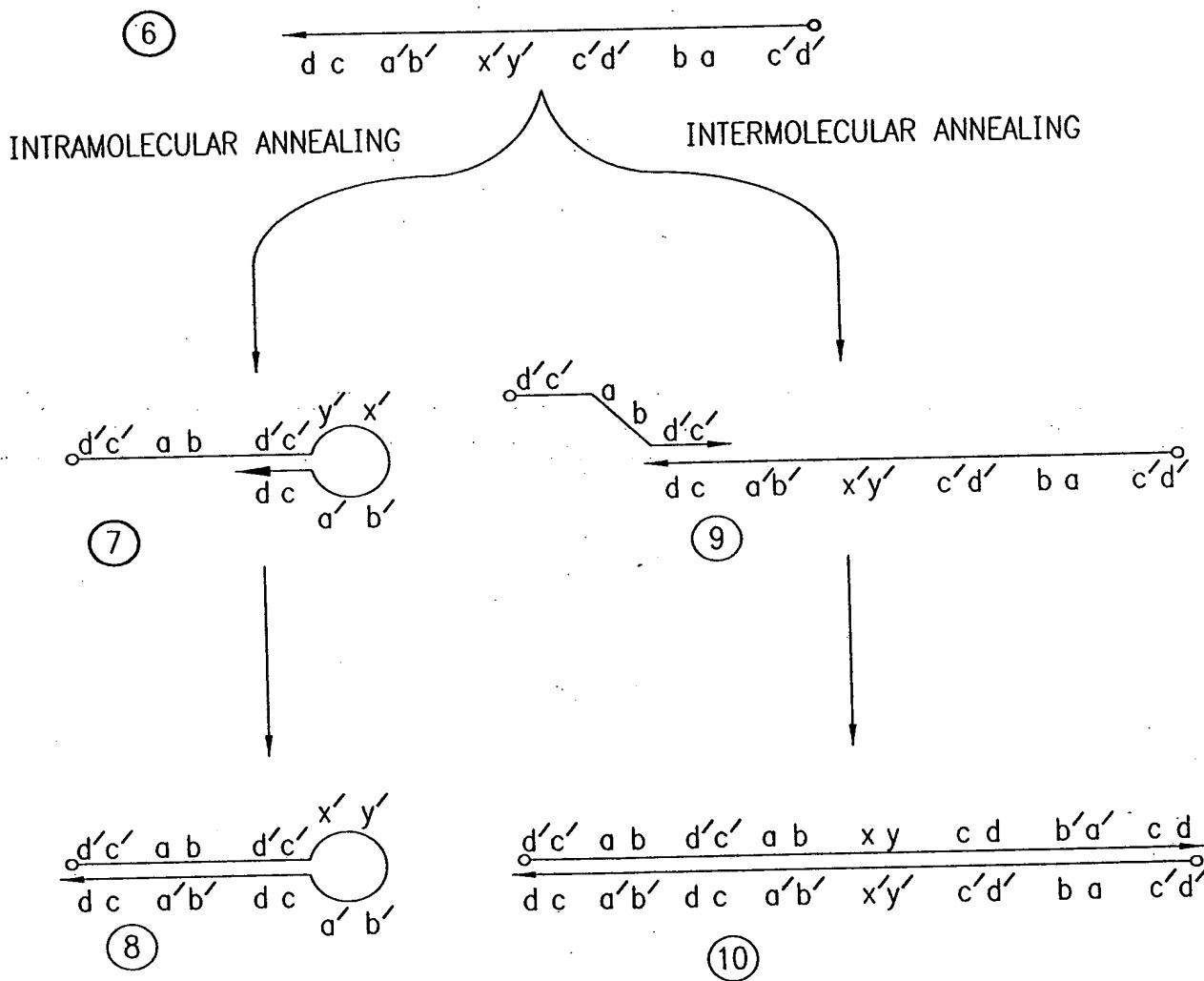


FIG. 10



11/30

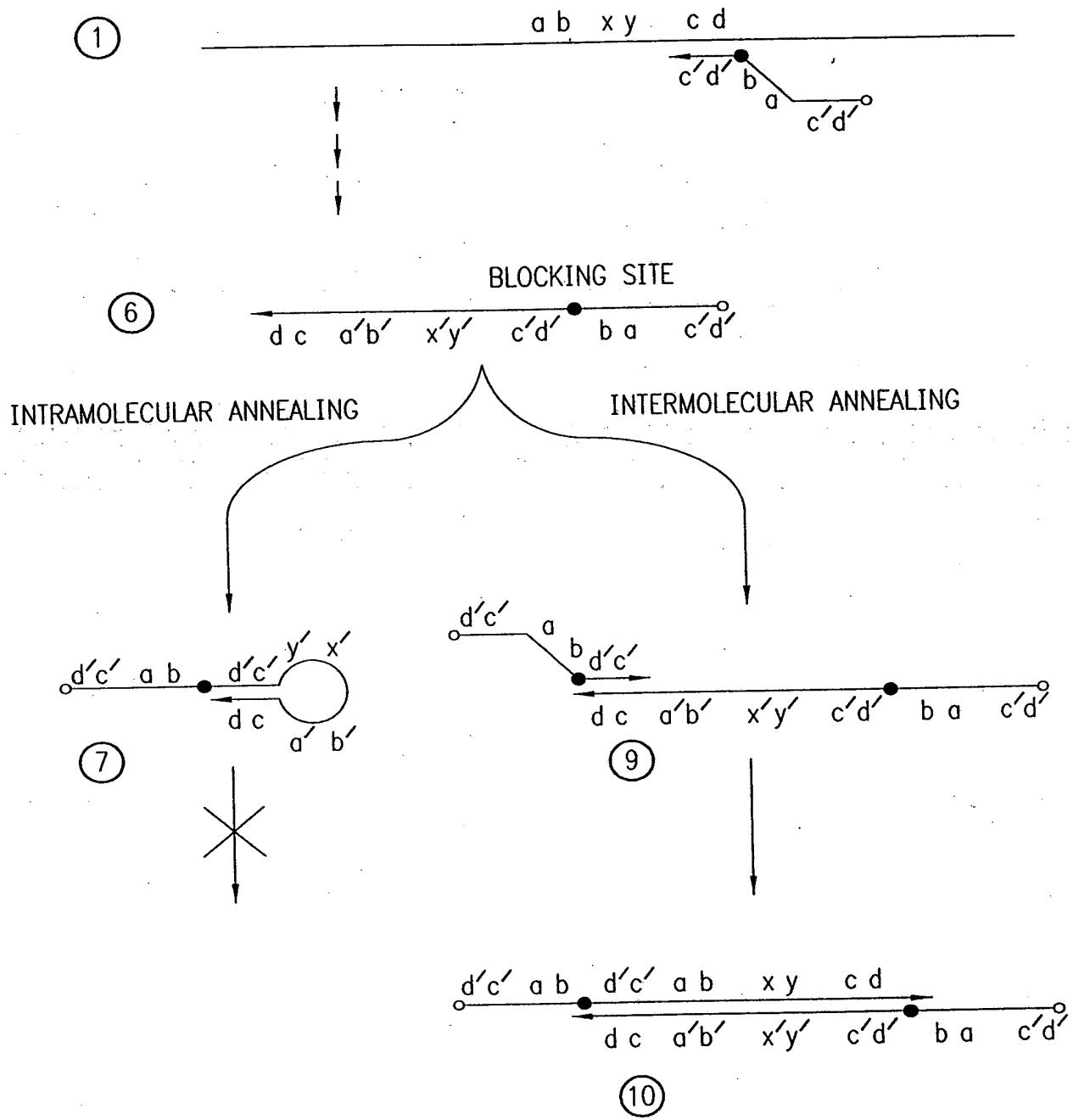


FIG. 11



12/30

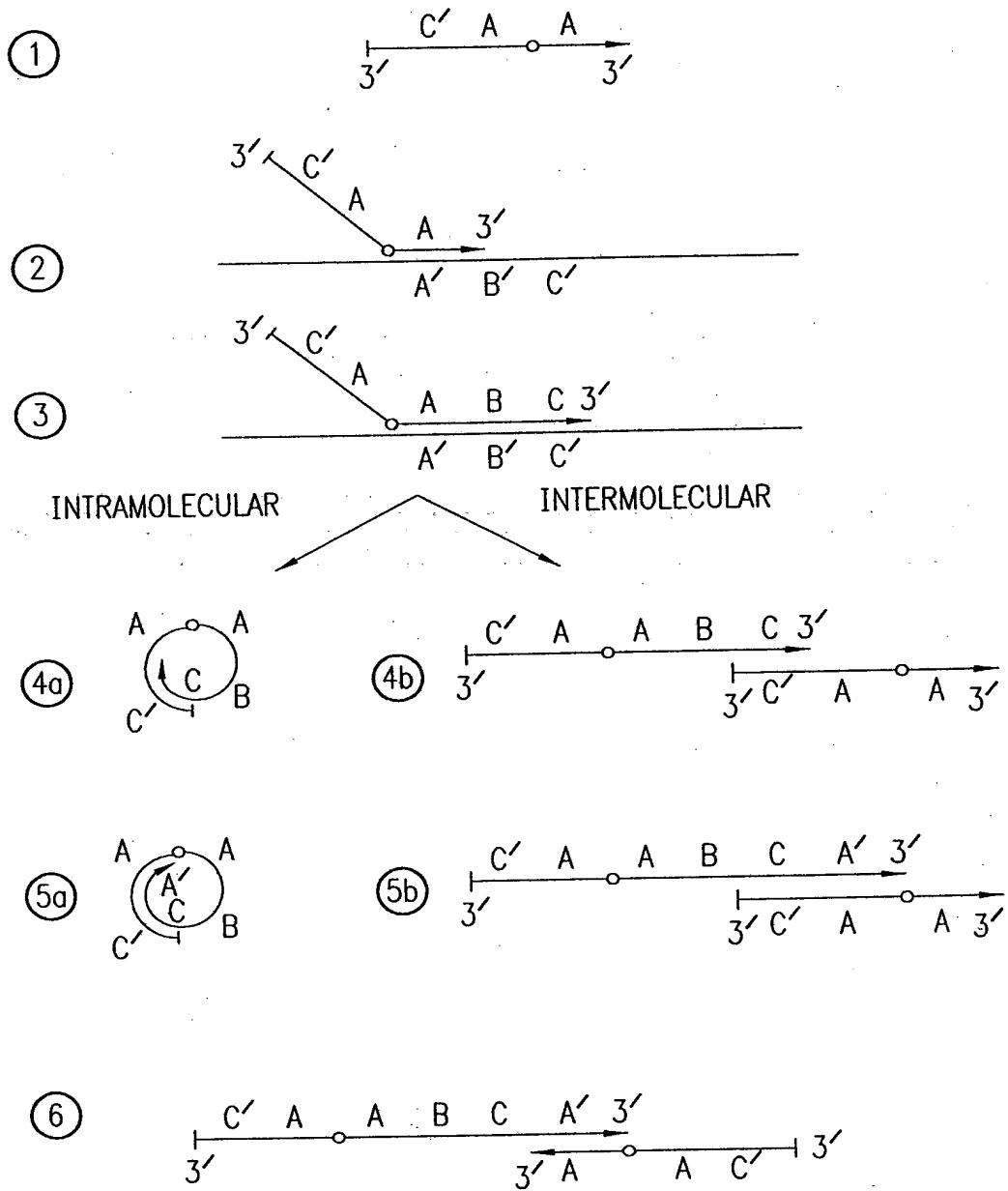
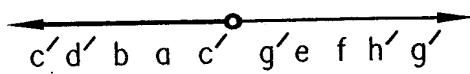


FIG. 12

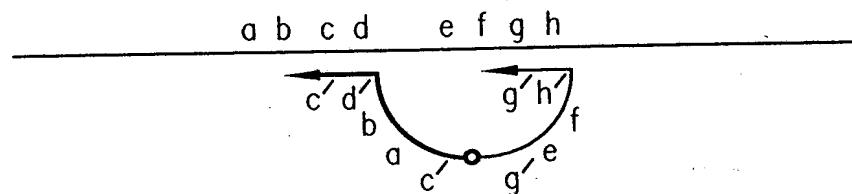


13/30

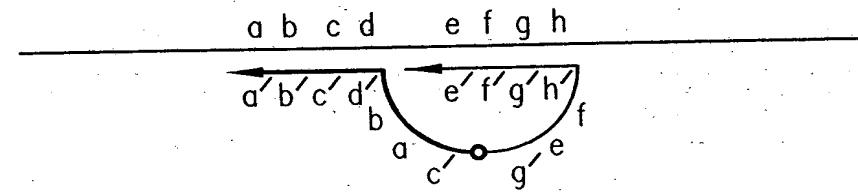
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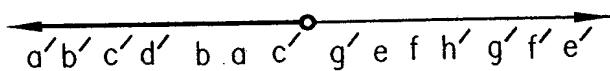
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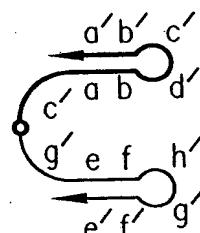
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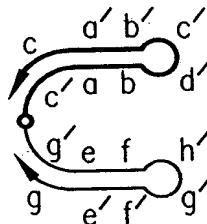
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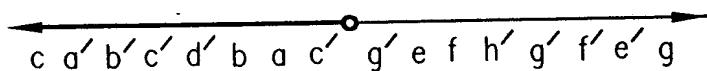
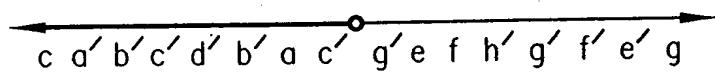


FIG. 13

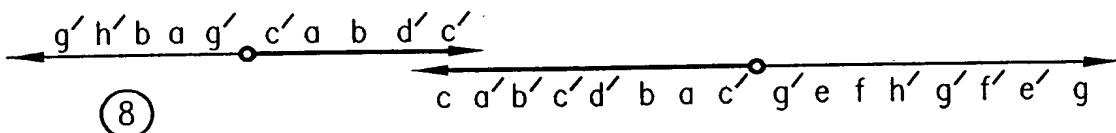


14/30

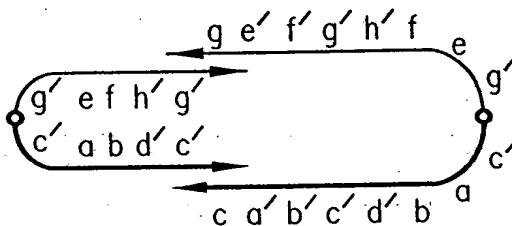
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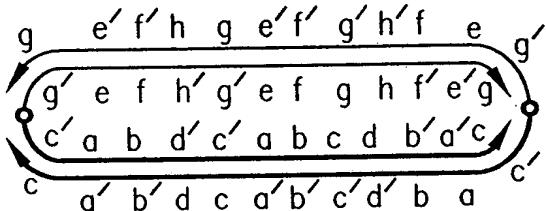
(8)



(9)



(10)



(11)

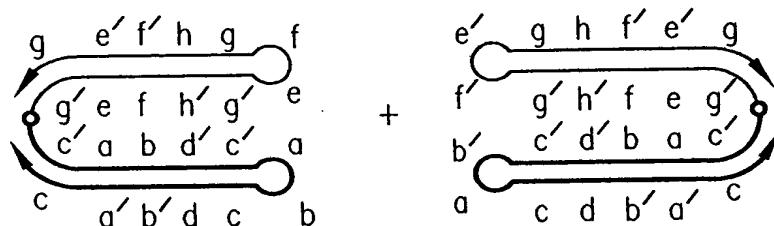
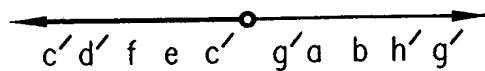


FIG. 14

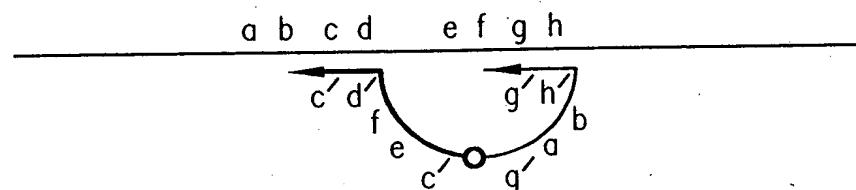


15/30

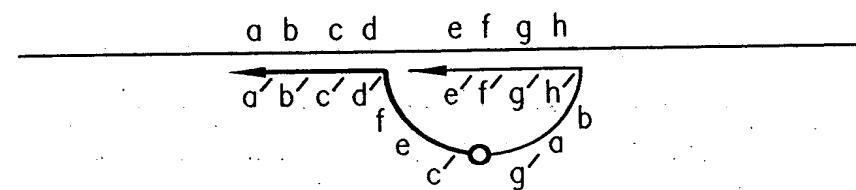
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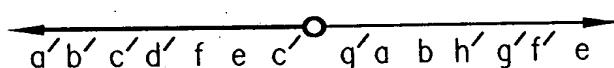
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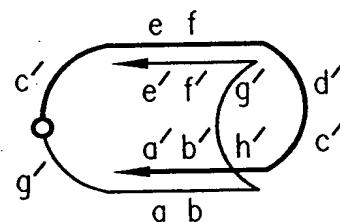
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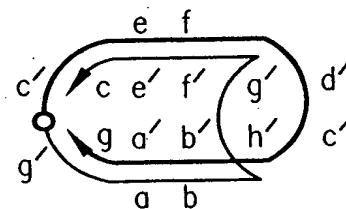
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⑥



FORM I

⑦

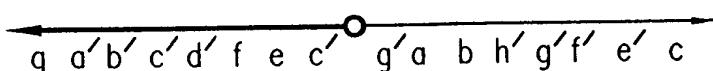
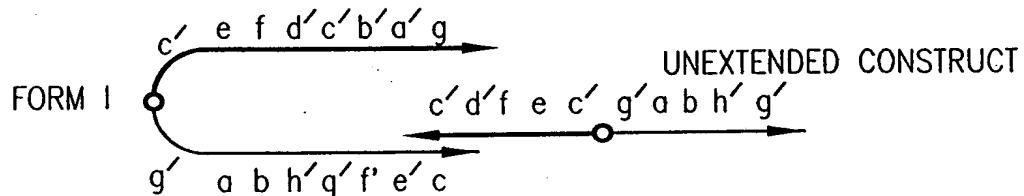


FIG. 15

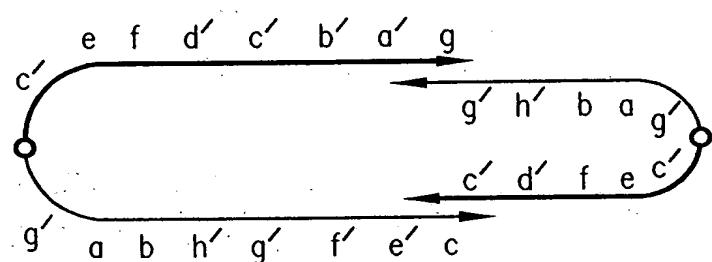


16/30

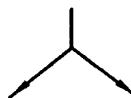
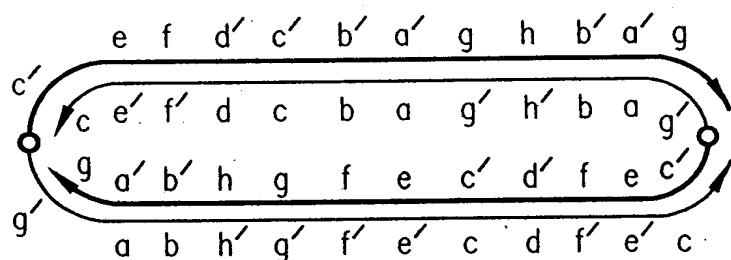
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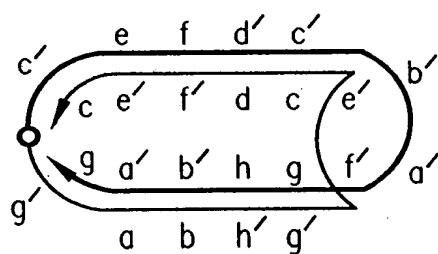
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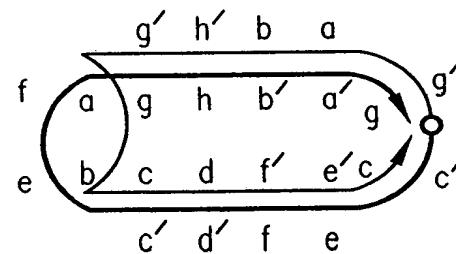
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FORM II

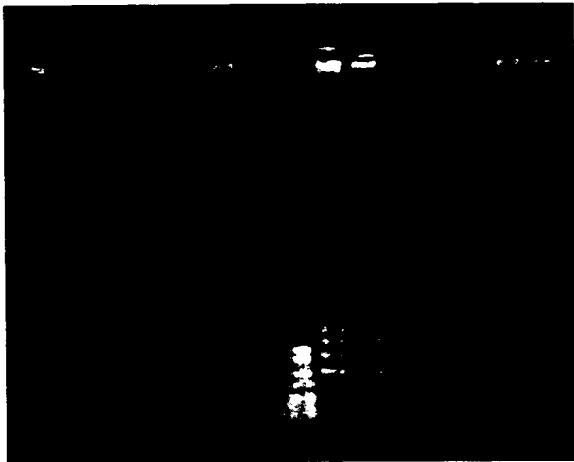
FORM III

FIG. 16

02570 U.S. PTO
10/01/03

17/30

A



30 MINUTES INCUBATION

B



180 MINUTES INCUBATION

- 1 53°C, 10^{-2} DILUTION
- 2 53°C, 10^{-3} DILUTION
- 3 53°C, 10^{-4} DILUTION
- 4 53°C, 10^{-5} DILUTION
- 5 53°C, NO TARGET
- 6 53°C, 10^{-2} DILUTION, FC/LRC
- 7 53°C, 10^{-2} DILUTION, LFC/RC
- 8 MSP I MARKER
- 9 63°C, 10^{-2} DILUTION
- 10 63°C, 10^{-3} DILUTION
- 11 63°C, 10^{-4} DILUTION
- 12 63°C, 10^{-5} DILUTION
- 13 63°C, NO TARGET
- 14 63°C, 10^{-2} DILUTION, FC/LRC
- 15 63°C, 10^{-2} DILUTION, LFC/RC

FIG. 17

10/10/03
02570 U.S. PTO

18/30

A) GEL ASSAY

TOP = ISOTHERMAL AMPLIFICATION

BOTTOM = PCR AMPLIFICATION

- 1 MSP I MARKER
- 2 1×10^6 TARGET
- 3 1×10^4 TARGET
- 4 1×10^2 TARGET
- 5 NO TARGET



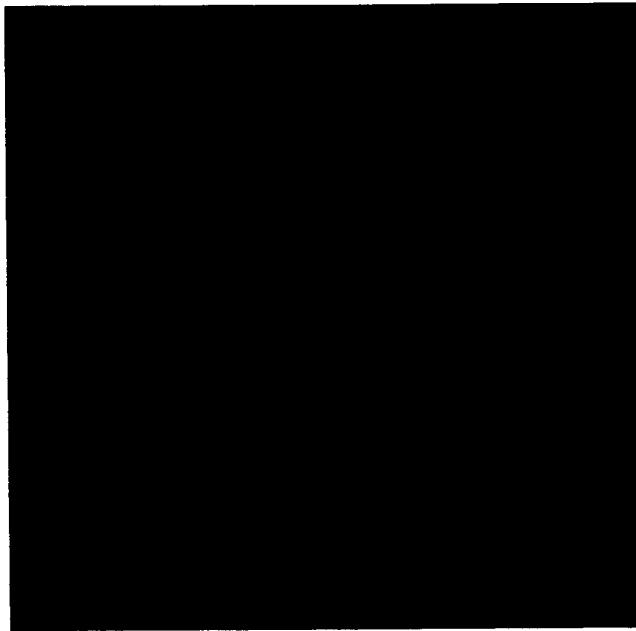
B) PLATE ASSAY

10^6 TARGET	10^4 TARGET	10^2 TARGET	TARGET
1.702	1.594	0.376	0.085

FIG. 18



19/30



- 1 CARBOXY-U, KLENOW 37°C, NEB #2
- 2 NORMAL T, KLENOW, 37°C, NEB #2
- 3 CARBOXY-U, KLENOW, 37°C, BUFFER #2A
- 4 NORMAL T, KLENOW, 37°C, BUFFER #2A
- 5 CARBOXY-U, KLENOW, 55°C, NEB #2
- 6 NORMAL T, KLENOW, 55°C, NEB #2
- 7 MSP I MARKER
- 8 CARBOXY-U, TAQ, 55°C, NEB #2
- 9 NORMAL T, TAQ, 55°C, NEB #2
- 10 CARBOXY-U, TAQ, 65°C, BUFFER #2M
- 11 NORMAL T, TAQ, 65°C, BUFFER #2M
- 12 CARBOXY-U, BST, 65°C, THERMOPOL BUFFER
- 13 NORMAL T, BST, 65°C, THERMOPOL BUFFER
- 14 CARBOXY-U, TAQ, 65°C, BUFFER #2A
- 15 NORMAL T, TAQ, 65°C, BUFFER #2A

FIG. 19



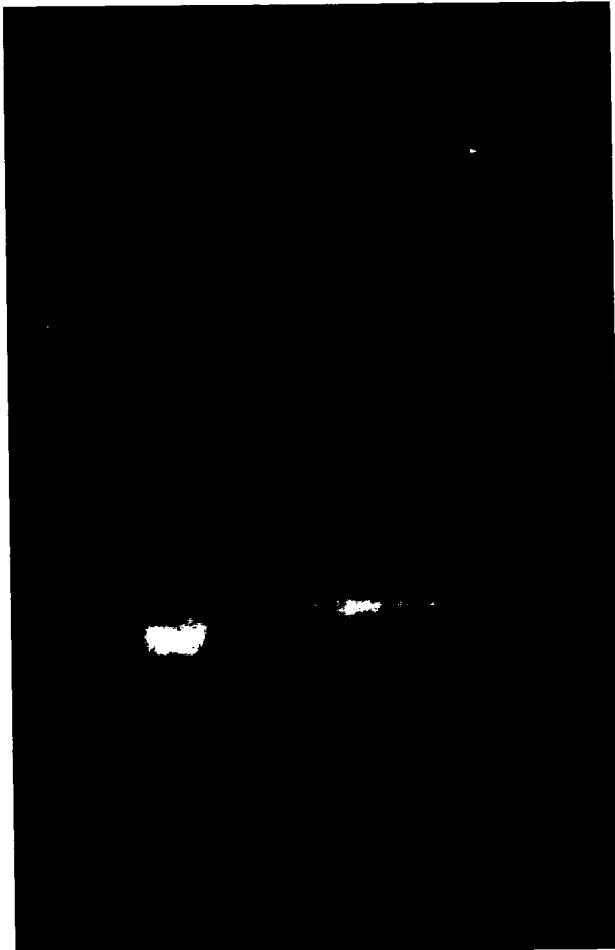
20/30

ENZYME	BUFFER	TEMPERATURE	NUCLEOTIDE	RELATIVE LEVEL OF SYNTHESIS
KLENOW	NEB #2	37°C	CARBOXY U NORMAL T	++
KLENOW	2A	37°C	CARBOXY U NORMAL T	-
KLENOW	NEB #2	55°C	CARBOXY U NORMAL T	+++
TAQ	NEB #2	55°C	CARBOXY U NORMAL T	++
TAQ	2M	65°C	CARBOXY U NORMAL T	+++
BST	THERMOPOL	65°C	CARBOXY U NORMAL T	++
TAQ	2A	65°C	CARBOXY U NORMAL T	+/-

FIG. 20



21/30

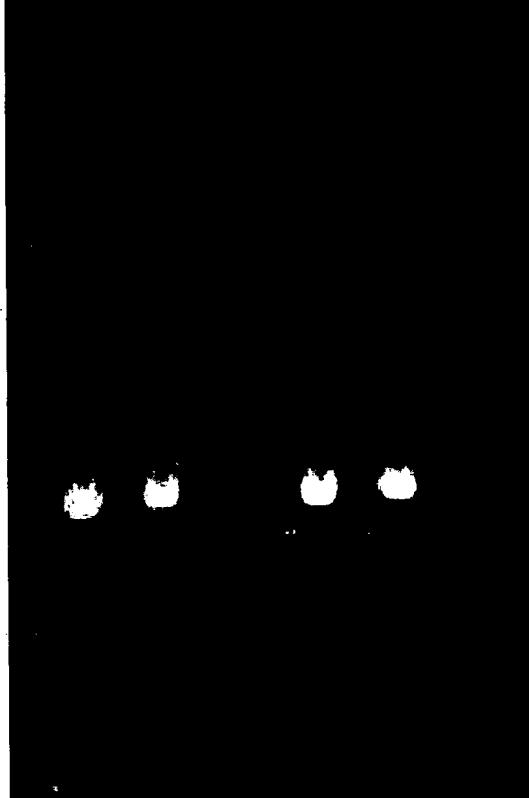


1. MSP I/BST E II MARKER
2. NORMAL T, 1 mM $MgCl_2$
3. CARBOXY U, 2 mM $MgCl_2$
4. CARBOXY U, 3 mM $MgCl_2$
5. CARBOXY U, 4 mM $MgCl_2$
6. CARBOXY U, 5 mM $MgCl_2$
7. MSP I/BST E II MARKER

FIG. 21

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10/01/03

22/30



1. MSP I/BST E II MARKER
2. NORMAL T, TAQ
3. CARBOXY U, TAQ
4. NORMAL T, Tfl
5. CARBOXY U, Tfl
6. NORMAL T, Tth
7. CARBOXY U, Tth
8. NORMAL T, AMPLITHERM
9. CARBOXY U, AMPLITHERM
10. NORMAL T, REPLITHERM
11. CARBOXY U, REPLITHERM
12. MSP I/BST E II MARKER

FIG. 22

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10/01/03

23/30



1. TAQ, 2mM $MgCl_2$
2. TAQ, 4mM $MgCl_2$
3. TAQ, 6mM $MgCl_2$
4. Tfl, 2mM $MgCl_2$
5. Tfl, 4mM $MgCl_2$
6. Tfl, 6mM $MgCl_2$
7. MSP I MARKER
8. Tfl/Enh, 2mM $MgCl_2$
9. Tfl/Enh, 4mM $MgCl_2$
10. Tfl/Enh, 6mM $MgCl_2$

FIG. 23

02570 U.S. PRO
10/01/03

24/30

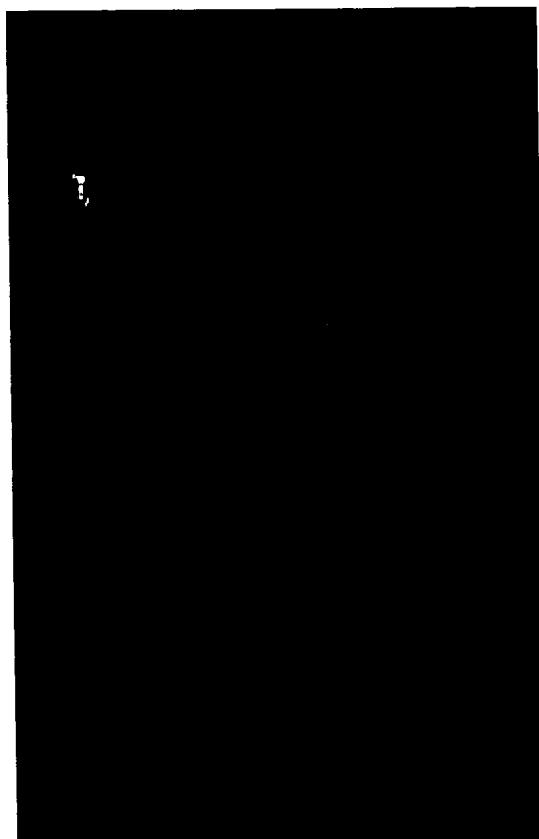


1. Tth/Enh, 4mM MgCl₂
2. Tth/Enh, 6mM MgCl₂
3. Tth/Enh, 8mM MgCl₂
4. Msp I/BspE1 MARKER
5. AMPLITHERM/ Enh, 4mM MgCl₂
6. AMPLITHERM/ Enh, 6mM MgCl₂
7. AMPLITHERM/ Enh, 8mM MgCl₂
8. Msp I/BspE1 MARKER
9. REPLITHERM/ Enh, 4mM MgCl₂
10. REPLITHERM/ Enh, 6mM MgCl₂
11. REPLITHERM/ Enh, 8mM MgCl₂

FIG. 24



25/30



1. Msp I MARKER
2. 0.3X ENHANCER
3. CONTROL
4. DEAZA G
5. GENE 32
6. 10% DMSO
7. 3X POLYMERASE

FIG. 25



SEQ ID 11
5' -TGC GCT AAC AAA GCC CGA AAG GAA G-----GCT GAA AGG AGG AAC TAT ATG GCG TCA TAC GAT ATG AAC GTT-3'
3' -ACG CCA CCA TTG TTT CGG GCT TTC CTT C-----CGA CTT TCC ATA TAC TTG AGT ATG CTA TAC TTG CAA-5'
SEQ ID 12

TS-13 SEQ ID 13
5' -AAT CTA GA GCT AAC AAA GCC CGA AAG GAA G-3'

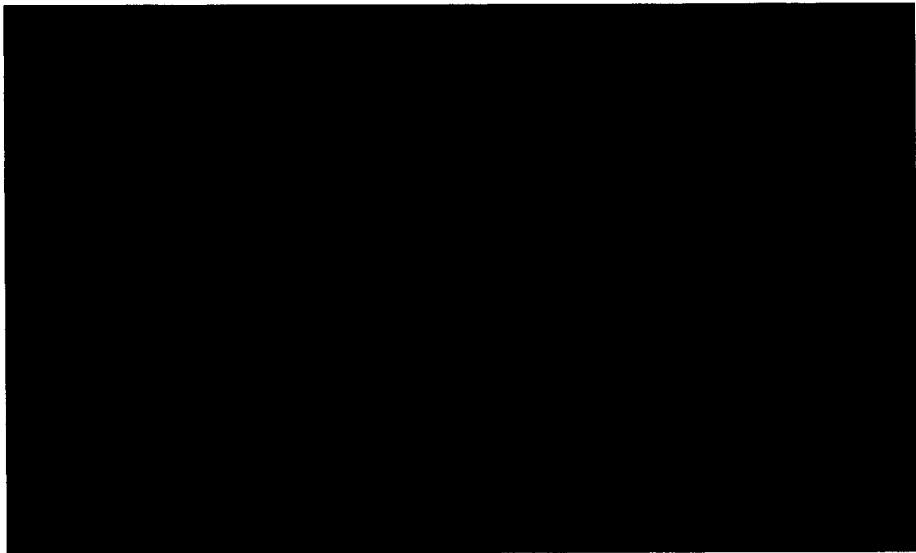
TS-21 SEQ ID 14
5' -TGC GCT GCT AAC AAA GCC CGA AAG GAA G-3'
SEQ ID 16 TS-14
3' -CGA CT IC TC TG AT A GA GT T-5'

26/30
TS-22 SEQ ID 15
5' -ACC CCC GCT GCT AAA GCC CGA AAG GAA G-3'
SEQ ID 17 TS-23
3' -CGA CT IC TC TG AT A GG AT G-5'
SEQ ID 18 TS-24
3' -G AT A TA GC GT AT CA TG CA A-5'

FIG. 26



27/30

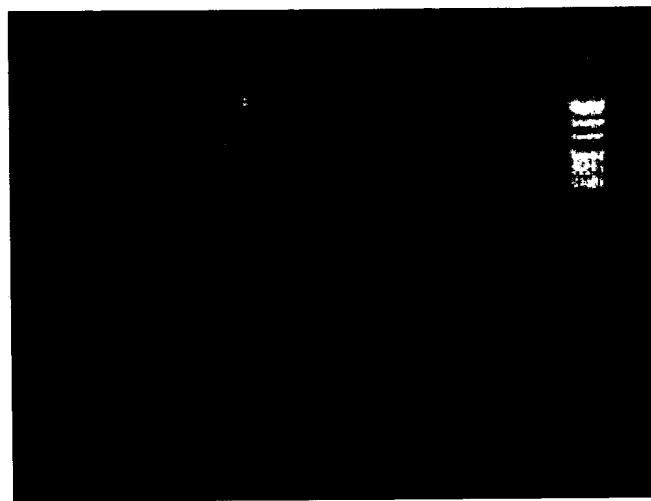


1. Msp I MARKER
2. TS13 + TS14
3. TS13 + TS23
4. TS13 + TS24
5. TS21 + TS14
6. TS21 + TS23
7. TS21 + TS24
8. TS22 + TS14
9. TS22 + TS23
10. TS22 + TS24
11. Msp I MARKER
12. TS13 + TS14 (DIFFERNT LOT OF C-U)
13. TS13 + TS14 (ALLYLAMINE dUTP)
14. TS13 + TS14 (NORMAL dTTP)

FIG. 27

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10/01/03

28/30



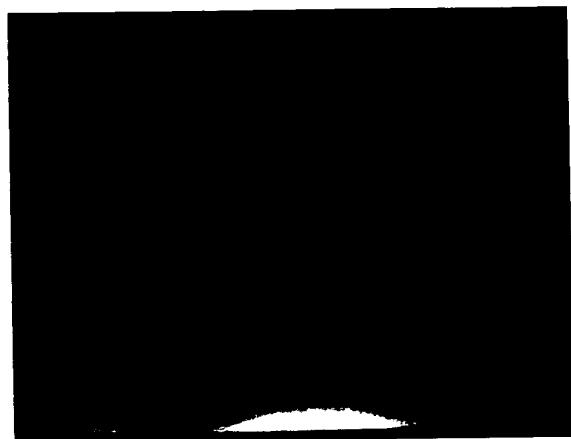
1. TS13 + TS14
2. TS13 + TS23
3. TS13 + TS24
4. Msp I MARKER
5. TS21 + TS14
6. TS21 + TS23
7. TS21 + TS24
8. TS22 + TS14
9. TS22 + TS23
10. TS22 + TS24
11. Msp I MARKER

FIG. 28

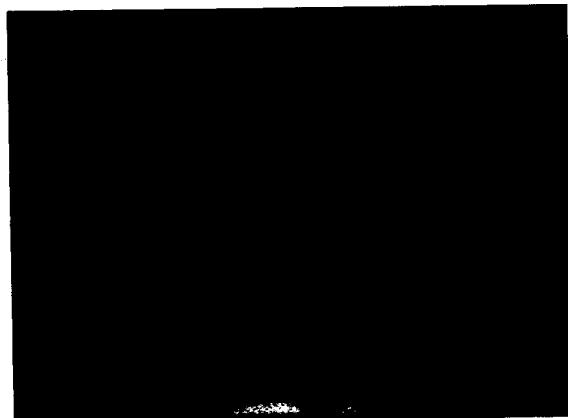
10/01/03
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29/30

FLUORESCENT DETECTION



ETHIDIUM BROMIDE FLOURESCENCE



- 1 1 x TAPS, pH 9.2
- 2 2 x TAPS, pH 9.2
- 3 3 x TAPS, pH 9.2
- 4 3 x TAPS, pH 9.7
- 5 3 x TAPS, pH 9.2
- 6 3 x TAPS, pH 8.6
- 7 NO ENZYME CONTROL
- 8 FLUORESCEIN 12-ddUTP CONTROL

FIG. 29

02570 U.S. PTO
10/01/03

30/30

FLUORESCENT DETECTION



ETHIDIUM BROMIDE FLOURESCENCE



- 1 1 x TAPS, pH 9.2
- 2 2 x TAPS, pH 9.2
- 3 3 x TAPS, pH 9.2
- 4 3 x TAPS, pH 9.7
- 5 3 x TAPS, pH 9.2
- 6 3 x TAPS, pH 8.6
- 7 NO ENZYME CONTROL
- 8 FLUORESCEIN 12-ddUTP CONTROL

FIG. 30